# United States Patent [19]

Potter et al.

[11] Patent Number: 4,913,168

[45] Date of Patent: Apr. 3, 1990


[54] FLAVOR DELIVERY ARTICLE


[75] Inventors: **Dennis L. Potter**, Kernersville; **Mark L. Raker**, Clemmons; **Henry T. Ridings**, Lewisville; **Andrew J. Sensabaugh, Jr.**, Winston-Salem; **Amos E. Westmoreland**, Winston-Salem; **Donna K. Woods**, Winston-Salem; **Chandra K. Banerjee**, Pfafftown, all of N.C.

[73] Assignee: **R. J. Reynolds Tobacco Company**, Winston-Salem, N.C.



[21] Appl. No.: 278,060

[22] Filed: Nov. 30, 1988

[51] Int. Cl.[4] ..... A24F 1/00

[52] U.S. Cl. ..... 131/194; 131/273; 131/360

[58] Field of Search ..... 131/273, 194–197



[56] References Cited

U.S. PATENT DOCUMENTS

| | | | |
|---|---|---|---|
| 2,104,266 | 1/1938 | McCormick | 131/12 |
| 3,258,015 | 6/1966 | Ellis et al. | 131/171 |
| 3,683,936 | 8/1972 | O'Neil, Jr. | 131/8 |
| 3,766,079 | 10/1973 | Jackman | 252/188.3 R |
| 3,875,083 | 4/1975 | Murtaugh | 252/535 |
| 3,924,603 | 12/1975 | Chapin | 126/263 |
| 3,968,048 | 7/1976 | Bolan | 252/157 |
| 4,058,474 | 11/1977 | Keyes et al. | 252/160 |
| 4,067,313 | 1/1978 | Donnelly | 126/263 |
| 4,079,742 | 3/1978 | Rainer et al. | 131/2 |
| 4,149,548 | 4/1979 | Bradshaw | 131/273 |
| 4,206,068 | 6/1980 | Davis | 252/89.1 |
| 4,284,089 | 8/1981 | Ray | 131/270 |
| 4,338,098 | 7/1982 | Yamaji | 44/3 A |
| 4,393,884 | 7/1983 | Jacobs | 131/273 |
| 4,574,051 | 3/1986 | Matthews et al. | 252/70 |
| 4,774,971 | 10/1988 | Vieten | 131/273 |

FOREIGN PATENT DOCUMENTS

| | | |
|---|---|---|
| 276250 | 6/1967 | Australia . |
| 8602528 | 5/1986 | PCT Int'l Appl. . |



*Primary Examiner*—V. Millin

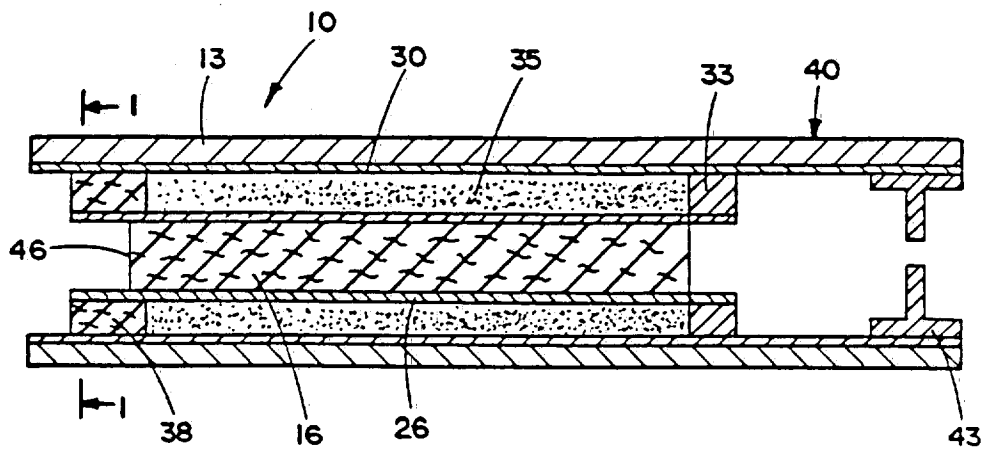
*Assistant Examiner*—Jennifer L. Doyle



[57] ABSTRACT

A flavor delivery article provides volatilized flavor by heating a flavor carrying substrate, but not burning any material. A heat source which includes a metal oxide (e.g., calcium oxide), an anhydrous metal sulfate (e.g., magnesium sulfate), an inorganic salt and a sugar, generates heat upon contact of water therewith. The heat produced by the heat source heats flavor in a heat exchange relationship therewith. Flavors volatilize and are drawn into the mouth of the user of the article. Typical heat sources heat the flavor to a temperature within 70° C. to 200° C. for 4 to 8 minutes.


**69 Claims, 1 Drawing Sheet**





RECEIVED

APR 19 1990

NOTED:

2026230602

Source: https://www.industrydocuments.ucsf.edu/docs/jtxl0000